REFERENCE
*AIR*BASS™
Wireless Subwoofer
Volume Control System

OWNERS MANUAL AND
INSTALLATION GUIDE

SOUNDSTREAM®
T E C H N O L O G I E S

CONGRATULATIONS!

You now own **the REFERENCE** *AIR***BASS**™ **Wireless Subwoofer Remote System**, the product of an uncompromising design and engineering philosophy. Your Soundstream REFERENCE accessory will undoubtedly increase the performance of your audio system.

To maximize the performance of your system, we recommend that you thoroughly acquaint yourself with its capabilities and features. Please retain this manual and your sales and installation receipts for future reference. Also, to ensure its proper operation, we recommend that you have *AIR***BASS** installed by an Authorized Soundstream Dealer.

Soundstream products are the result of American craftsmanship and the highest quality control standards, and when properly installed, will provide you with many years of listening pleasure. Should your accessory ever need service or replacement due to theft, please record the following information, which will help protect your investment.

Model_____

Serial #_____

Dealer's Name _____

Date of Purchase _____

Installation Shop _____

TROUBLESHOOTING

PROBLEM	CAUSE
*AIR***BASS** installed, the LED is FLASHING, but the unit is not functioning	• Make sure the *AIR***BASS** switch on the amplifier's main pc board is in the "IN" position, and that the low pass filter in the amplifier has been engaged. (Read the amplifier's owner's manual to see how *AIR***BASS** affects your particular amplifier.) • Make sure the *AIR***BASS** receiver board has been programmed to the remote. • Make sure the *AIR***BASS** transmitter is set to the bank the receiver board has been programmed to. (See page 9 for bank programming.)
The *AIR***BASS** Maximum level is not as loud as the amplifier without *AIR***BASS**.	• The "**M**" button level has been programmed to some level other than the +24 dB output level. Use the ↑ arrow to set the *AIR***BASS** level to its maximum output level (+24 dB). Follow the steps on page 10 to program the "**M**" button to be the **Maximum** output level.
*AIR***BASS** is working, but the range is poor.	• Making sure the antenna is up high away from the amplifier, and if necessary, away from other *AIR***BASS** antennas • The batteries in the transmitter may be low. Replace them with fresh batteries.

SPECIFICATIONS

THD	<0.01%
Signal to Noise	>100 dB
Frequency Response	20 Hz to 20 kHz ± 0.5 dB
Attenuation	24 dB of range with 8 steps
Functional Range	5 to 30 feet with proper antenna location
Transmitter Batteries	Two 3 Volt Lithium (not covered by Warranty)

Receiver Board Dimensions: 2.75" L x 2.0" W x 0.5" H

ADVANCED OPERATION

Each button on the *AIR***BASS** transmitter has a special "second" function which it can perform when it is held down for 2 seconds. The table below describes all the functions each button does.

BUTTON	Time Duration	Function
↑	Depressed Momentarily	Volume Up
↑	Held down for 2 seconds	Maximum Output Level
↓	Depressed Momentarily	Volume Down
↓	Held down for 2 seconds	Mute
M	Depressed Momentarily	Jump to the pre-programmed **Maximum** (or MEMORY) level*
M	Held down for 2 seconds	Program the current output level as the MEMORY level*
X	Depressed Momentarily	Mute
X	Held down for 2 seconds	Jump to the output level prior to "**X**" being pressed momentarily

∗ *The "M" button is factory pre-programmed for the "Maximum amplifier output level", which is set by the gain controls on the amplifier. It is possible to change the pre-programmed "M" button to a different level. The AIRBASS attenuation "ladder" is composed of eight "rungs" or levels. (See the diagram on page 7.) Any one of the "rungs" can be programmed as the MEMORY level. To program the MEMORY level to the "M" button, simply set the desired output level using the ↑ and ↓ arrows. Once the level to be programmed has been found, simply hold down the "M" button for 2 seconds. The red LED on the transmitter will begin to flash, telling you the "second" function for that button has been sent. The MEMORY level has now been set. To use the MEMORY level, depress the "M" button momentarily, and AIRBASS will immediately go to that level.*

SERVICE

Your Soundstream REFERENCE *AIR***BASS** is protected by a limited warranty. Please read the enclosed warranty card.

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INTRODUCTION

The *AIR*BASS wireless subwoofer control allows you to grasp total control over your subwoofers. A hand-held wireless transmitter (programmable to run multiple Soundstream amplifiers) controls up to 24 dB of volume, allowing you to custom tailor the amount of bass. And for those of you who like to jump to extremes, press the MAXIMUM BASS button and prepare to be blown away!

DESIGN FEATURES

- **Wireless Control -** No cables necessary! Control the bass level from outside of your car.

- **Eight Step Precision Resistor Volume Control -** Controls the output level of the amplifier, up to 24 dB of range!

- **Four-function Controller -** Allows volume level up, volume level down, mute and **Maximum Bass** adjustment.

- **Simultaneous Multiple Amplifier Control -** Any number of *AIR*BASS receiver boards can be programmed to be controlled by one transmitter.

- **Multiple Car Control -** Each transmitter contains codes to control up to four cars.

- **EncryptoMorphic™ Transmitter Coding -** Each transmitter has a unique algorithm for security code calibrations, so that transmitter code copying will be impossible. Over 4 billion code combinations are possible with this technology!

- **Gold Plated Contact Points -** The push-button contact points and the battery terminals inside the hand-held transmitter are gold plated to prevent corrosion and to ensure reliable operation.

- *AIR*BASS is the recipient of the prestigious Autosound Grand Prix Technology Award.

MULTIPLE CAR INSTALLATIONS

For installations using one transmitter to control *AIR*BASS receiver boards in multiple cars, each transmitter has four "banks" of codes. Any receiver board can be programmed to learn ONE bank of codes. Therefore, any transmitter can control up to four different subwoofer amplifiers independently!

BUTTON	BANK NUMBER
↑	1
↓	2
M	3
X	4

Each *AIR*BASS unit is shipped pre-programmed to accept codes from bank #1. To program a receiver board to accept codes from another bank, please follow these steps:

1. On the *AIR*BASS transmitter, press the SHIFT KEY (button #2 in the diagram on page 5). The LED will light STEADY GREEN and RED at the same time.
2. While the LED is STEADY GREEN / RED, press the button corresponding to the bank which you want the *AIR*BASS receiver board to be programmed to. The LED will then FLASH GREEN the number of times representing the bank it was set to (ONE FLASH for bank #1, TWO FLASHES for bank #2, etc.) Then the LED will light STEADY RED for about a second, and then go out.
3. The transmitter has now been set to a new bank of codes. To program the *AIR*BASS receiver board to accept this new bank of codes, follow the steps on the previous page for receiver board programming.
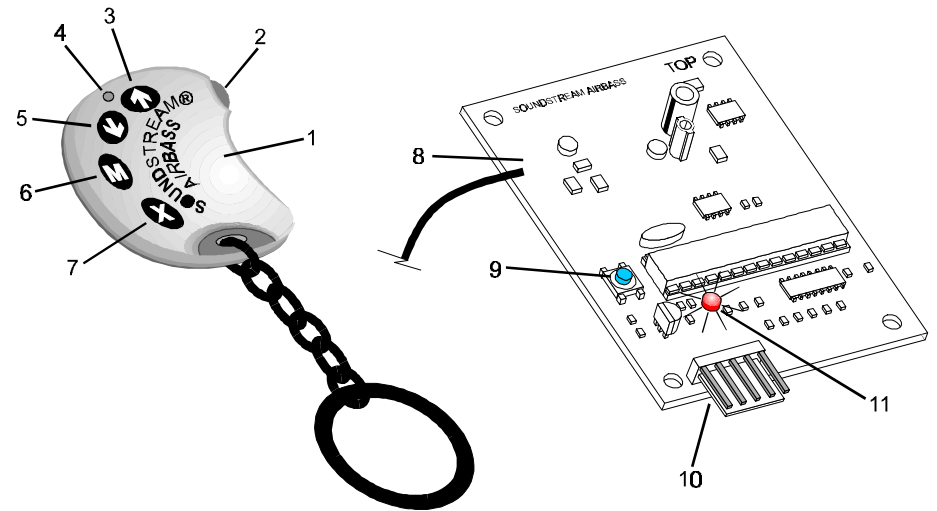
NOTE: *The hand-held transmitter will stay in whatever bank you switch it to. It does not automatically revert back to a previous bank of*

MULTIPLE RECEIVER BOARD INSTALLATIONS

For installations using multiple Reference amplifiers to drive multiple subwoofers, it may be desired to have one *AIR***BASS** hand-held transmitter control all the subwoofer amplifiers at the same time. This is very easy to do, but the programming procedure will require the amplifier to be powered up with the bottom plate off. To program multiple receiver boards to one transmitter, please complete the following steps:

1. Remove the bottom plate of the amplifier, and install the *AIR***BASS** receiver board.
2. Connect power, ground and remote wires to the amplifier, and turn the amplifier on.
3. If the receiver board has never been programmed to a transmitter, the LED on the receiver board should be FLASHING FAST RED (on and off quickly). If the receiver board has already been programmed to a transmitter, the LED on the receiver board will PULSE RED (on for a quick pulse, then off for about a second). Press and hold the blue button on the receiver board for 4 seconds. While depressing the blue button, the LED on the receiver board should light up STEADY RED. After about 4 seconds, the LED will begin FLASHING FAST RED, indicating that the transmitter codes have been cleared, and it is ready to be programmed to a new transmitter.
4. Depress any button on the transmitter which you wish to use to control the *AIR***BASS** receiver board. The LED on the receiver board will light up STEADY RED for about a second, then revert to a PULSING RED. This means the transmitter codes have been accepted and stored.
5. Re-assemble the amplifier.

REMEMBER: *For the best range with more than one AIR***BASS** *units in one car, place the antennas for each AIR***BASS** *receiver board as far apart as possible.*
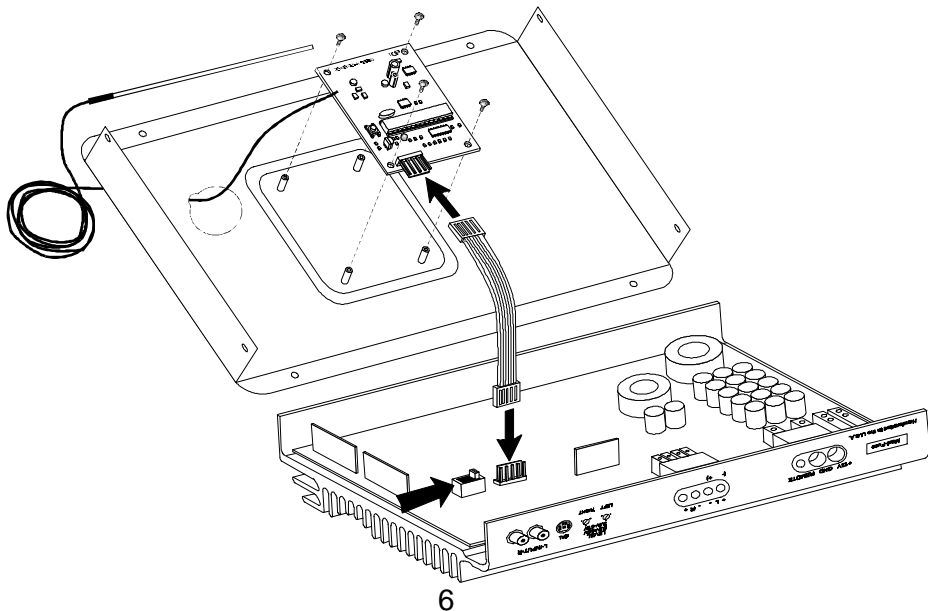

KEY TO CALLOUTS

1. **Transmitter -** Portable hand-held remote controller.
2. **Shift Key -** The *AIR***BASS** can control up to four receiver boards independently. Use the Shift Key to determine which board the transmitter is controlling.
3. **Arrow Up Button -** Press to increase bass level.
4. **LED -** Dual color red / green LED displays remote controller functions.
5. **Arrow Down Button -** Press to decrease bass level.
6. **"M" Button -** Press this button to get **MAXIMUM BASS**.
7. **"X" Button -** Press this to mute the amplifier.
8. **Receiver Board -** Amplifier-mounted receiver circuit board.
9. **Programming Button -** Use this button to program the receiver board to a transmitter.
10. **Connector -** Use the 5-pin ribbon cable to connect the receiver board to the amplifier's main pc board.
11. **LED -** Red LED which displays the receiver board status.

INSTALLATION

1. Disconnect all power wires from the amplifier.
2. Remove the bottom cover plate of the amplifier by removing the four screws at the ends of the amplifier. (There also may be screws on the center of the bottom plate on the larger Reference amplifiers.) A Torx® T-15 driver will be needed to remove the screws.
3. With a Philips screw driver, bolt the *AIR***BASS** receiver board to the four stand-offs on the bottom plate of the amplifier using the four screws provided.
4. Plug the ribbon cable to the receiver board and to the amplifier main pc board connector. The connector will only go on one way.
5. On the amplifier main pc board near the ribbon connector, there is a switch labeled "AIRBASS". Move this switch to the "IN" position.
6. Route the antenna wire through one of the holes in the bottom plate.
7. Re-attach the bottom cover to the amplifier.
8. Once in the car, mount the amplifier and route the antenna wire. For the best range, place the end of the antenna as high up in the vehicle as possible.
9. For multiple receiver boards on multiple amplifiers, route the antennas as far from each other as possible. This will give the best range of operation.
10. Please read your amplifier owner's manual to see how *AIR***BASS**

BASIC OPERATION

The *AIR***BASS** receiver board comes from the factory pre-programmed to be used with the transmitter it has been packaged with. The *AIR***BASS** accessory is operated simply by momentarily depressing any of the four buttons on the top of the remote controller. For initial transmitter set-up, please refer to the diagram below and follow these steps:

1. Turn on the amplifier.
2. The *AIR***BASS** accessory comes from the factory programmed to start in the "maximum" setting (i.e., +24 dB). While in this state, set the level of the amplifier by adjusting the gain controls on the front of the amplifier. This level should be the loudest the amplifier is ever played.
3. Momentarily press the ↓ button to decrease the output level. The LED on the transmitter will light RED for about a second. This will decrease the level ONE STEP. Wait for the LED to go out before sending another command.
4. Momentarily press the ↑ button to increase the output level.
5. Momentarily press the "**X**" button to MUTE the output of the

Reference Amplifier With *AIR***BASS** Control